City of Durham Public Works Department - Stormwater & GIS Services Division

South Ellerbe Stormwater Project

Frequently Asked Questions (FAQ) - July 2017

For more information, visit the project web page: **http://durhamnc.gov/1616**. You may also contact the City's Project Manager, **Sandi Wilbur**, at **Sandra.Wilbur@DurhamNC.gov** or (919) 560-4326, ext. 30286 or **Megan Walsh** at **Megan.Walsh@DurhamNC.gov** or (919) 560-4326 ext. 30220.

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QUESTIONS (click a question below for the answer):

ANSWERS:

1. **Why is there a need for this project?** (return to top)
   The Falls Lake Nutrient Management Strategy Rules were adopted by the State of North Carolina to improve water quality in Falls Lake by reducing the amount of pollution coming from stormwater runoff from new and existing development, wastewater treatment plants, and agriculture. The Falls Lake Rules require a reduction in the amount of nitrogen and phosphorus entering the lake. These pollutants are targeted because they can affect the water quality. A cleaner Falls Lake will help support its uses for drinking water supply, fish and wildlife habitat, and recreation. This project could help to reduce 500-1000 pounds of nitrogen annually from flowing into Falls Lake, as well as remove additional pollutants from this heavily developed area of Durham. This project has the potential to provide additional benefits to Ellerbe Creek and South Ellerbe Creek such as flood control, improved aquatic health, and reduction of pollutants such as zinc, bacteria, sediment, nitrogen, and phosphorus.

2. **What is the proposed project and how will it work?** (return to top)
   The City and its consultant, Wildlands Engineering, will design and build the stormwater restoration in several phases. The final design has not been determined, but the stormwater restoration will incorporate features that promote natural filtration of pollutants, such as constructed wetlands. Constructed wetlands are built to mimic the functions of natural wetlands. As stormwater flows through the site, wetland microbes, plants, and soil filter pollutants and treat the water through natural ecological processes. To get up-to-date information on the proposed project, visit the project website: http://durhamnc.gov/1616.

3. **Does the City own the site?** (return to top)
   Yes, the City of Durham purchased the property in October of 2015.

4. **What is unique about this site?** (return to top)
   This nine-acre site is unique within Durham due to its size and location in the watershed. The site is a natural low point in the watershed that receives stormwater runoff from two densely developed drainage basins, including a good portion of the downtown area totaling 485 acres. As rainwater runoff from these 485 urban acres makes its way to South Ellerbe Creek, it picks up pollutants such as nutrients, sediment, and litter. This stormwater restoration will filter the polluted runoff before it enters the creek.

5. **Why does this site receive so much stormwater runoff?** (return to top)
   It is a natural low-point where stormwater runoff collects from the City's drainage system. Stormwater runoff that reaches the site has primarily traveled through a closed pipe drainage system as opposed to a natural stream channel system. The property is located in the 100-year floodplain and partially in the floodway where buildings or fill are not normally allowed.

6. **Why does the existing building have to be demolished?** (return to top)
   The primary reason this natural stormwater restoration will be so effective is its size. If the existing building and adjacent parking were to be preserved, the space available for a stormwater restoration project would be insufficient to treat polluted runoff from the area draining to it.

7. **Will any materials from the demolition be salvaged or recycled?** (return to top)
   Recycling and reuse of any applicable building or construction materials will be determined at the design phase. Any comments or suggestions will be taken into consideration.

8. **How long will it take for the project to establish vegetation (i.e. to "grow in")?** (return to top)
   The restoration project will be able to capture and treat stormwater runoff as soon as it is created, but, as with any garden, it may take a few seasons of growth for the plants to fully establish and become most effective.

9. **Will the stormwater project attract nuisance species such as geese or mosquitoes?** (return to top)
   As with any natural area, birds and other small wildlife will likely spend time there. Shrubby vegetation, such as sedges, rushes, and inkberry, along the shore of open water areas will discourage geese. Research by NC State University scientists has shown that proper design and routine maintenance of a stormwater facility helps to establish a balanced ecosystem. For more information see: https://www.bae.ncsu.edu/extension/ext-publications/water/protecting/ag-588-04-mosquito-control-stormwater-facilities.pdf. For information on how to help control mosquitoes that may spread the Zika virus, visit the Center for Disease Control: https://www.cdc.gov/zika/index.html.

10. **What community amenities are being considered for this project?** (return to top)
    In addition to improving the environment, the stormwater restoration will add value to the community. The perimeter of the project site provides opportunities for functional amenities, such as viewing areas, educational signage, benches, and enhancing the connection to existing South Ellerbe Creek Trail. In addition, this project will be coordinated with the Durham Belt Line Trail Master Plan project adjacent to the site (visit https://durhambeltline.com for more information). This project could also be used by nearby schools and universities to study nature and aquatic ecology. Suggestions and ideas on amenities are being accepted at our upcoming public meetings, design workshop, or by contacting the people listed at the top of this FAQ.

11. How much will the project cost to construct? (return to top)

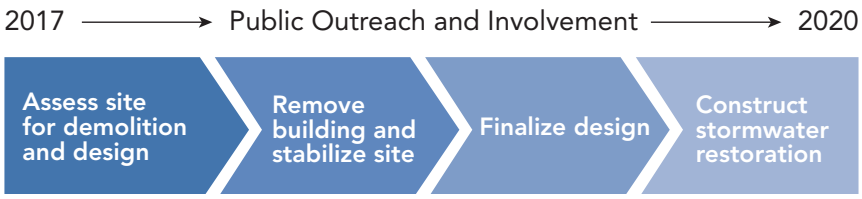
The estimated project cost is $8 million, which includes building demolition, construction of the stormwater restoration project, and landscaping and site stabilization. The estimated project cost does not include site amenities such as viewing areas, educational signage, benches, or enhancements to the existing South Ellerbe Creek Trail. (see Question 10 above)

12. What will annual maintenance costs be? (return to top)

The estimated annual maintenance cost is approximately $50,000, although this will depend on the amenities ultimately included in the final design. Annual maintenance will include such things as regular trash removal, replanting as necessary, upkeep of amenities, and maintenance of the structural components of the facility.

13. What is the project timeline? (return to top)

Field teams are working now to identify materials that may be recycled or reused and to complete environmental assessments that will inform the design process. By the end of 2017, crews will start to remove the former Duke Diet and Fitness Center building and stabilize the site. During the next two years, the project team will complete the design and prepare construction bid documents. Construction of the stormwater feature will continue through 2020.



Snapshot of the project timeline

14. Is the project being coordinated with other departments? (return to top)

Yes, the project is being coordinating with the Planning Department, Parks and Recreation Department, Transportation Department, City Manager's Office, General Services, Public Works as well as other departments as needed.

15. What other projects or practices are being considered to meet the Falls Lake Rules? (return to top)

The City is working with other partners in the watershed on various projects to help improve water quality in a holistic way by using cisterns, permeable pavement, green roofs, stream restorations, residential rain gardens, floating wetlands, algal turf scrubbers, and tree box filters. Other initiatives include fixing leaky sewers, increasing preservation areas, improving landscape and maintenance practices, and studying other sources of nitrogen such as atmospheric deposition. The City is also working with Upper Neuse River Basin Association (http://www.unrba.org/) on a monitoring and modeling project to address the Existing Development reductions required by the Falls Lake Rules. This stormwater restoration project will be part of a larger comprehensive watershed strategy. This project alone will not be adequate to meet the requirements under the Falls Lake Rules Existing Development.

16. How do I get more information? (return to top)

Information about the public meetings and other updates are provided at http://durhamnc.gov/1616. You may also contact the people listed at the top of this sheet. Information on the Falls Lake Nutrient Management Strategy Rules is available at: http://portal.ncdenr.org/web/fallslake/home. Information on the Upper Neuse River Basin Association is available at: http://www.unrba.org.